What Is Claimed Is:

1. A rotary incubation station of an automated analyzer, comprising:
   a. a platform;
   b. a generally circular ring-shaped outside rotary wheel having a plurality of nesting locations for washing and reading vessels;
   c. means for positioning said outside rotary wheel on said platform, allowing said outside rotary wheel to rotate;
   d. a generally circular disc-shaped inside rotary wheel having a plurality of nesting locations for incubation and storage of vessels;
   e. means for positioning said inside rotary wheel on said platform inside said outside rotary wheel, allowing said inside rotary wheel to rotate;
   f. first spur gear means for rotating said outside rotary wheel, allowing accurate control of the rotation of said outside rotary wheel; and
   g. second spur gear means for rotating said inside rotary wheel independent of the rotation of said outside rotary wheel, allowing accurate control of the rotation of said inside rotary wheel.

2. The rotary incubation station as defined in claim 1, wherein said means for positioning said inside rotary wheel comprises a plurality of horizontal bearings for positioning said inside rotary wheel inside said outside rotary wheel.

3. The rotary incubation station as defined in claim 2, wherein said means for positioning said inside rotary wheel further comprises at least one horizontal tensioner for locating said inside rotary wheel inside said outside rotary wheel.

4. The rotary incubation station as defined in claim 1, wherein said means for positioning said inside rotary wheel comprises a plurality of vertical pressure bearings for rotatably supporting said inside rotary wheel on said platform.

5. The rotary incubation station as defined in claim 1, wherein said first spur gear means for rotating said outside rotary wheel comprises a plurality of spur gear teeth on an inner periphery of said outside rotary wheel, and a first spur gear driver engaged with said spur gear teeth of said outside rotary wheel.

6. The rotary incubation station as defined in claim 5, wherein said first spur gear means for rotating said outside rotary wheel further comprises a first rotary actuator for driving said first spur gear driver.

7. The rotary incubation station as defined in claim 6, wherein said first rotary actuator is an electrical stepper motor.

8. The rotary incubation station as defined in claim 1, wherein said second spur gear means for rotating said inside rotary wheel comprises a plurality of spur gear teeth on an outer periphery of said inside rotary wheel, and a second spur gear driver engaged with said spur gear teeth of said inside rotary wheel.

9. The rotary incubation station as defined in claim 8, wherein said second spur gear means for rotating said inside rotary wheel further comprises a second rotary actuator for driving said second spur gear driver.

10. The rotary incubation station as defined in claim 9, wherein said second rotary actuator is an electrical stepper motor.

11. A rotary incubation station of an automated analyzer, comprising:

a. a generally circular-shaped platform;

b. a generally circular ring-shaped outside rotary wheel having a plurality of nesting locations for washing and reading vessels and a plurality of spur gear teeth on its inner periphery;

c. means for positioning said outside rotary wheel on said platform adjacent to its periphery, allowing said outside rotary wheel to rotate about a first axis;

d. a generally circular disc-shaped inside rotary wheel having a plurality of nesting locations for incubation and storage of vessels and a plurality of spur gear teeth on its outer periphery;

e. means for positioning said inside rotary wheel on said platform inside said outside rotary wheel, allowing said inside rotary wheel to rotate about a second axis;

f. means for rotating said outside rotary wheel, including a first spur gear

driver engaged with said spur gear teeth of said outside rotary wheel, providing accurate control of the rotation of said outside rotary wheel; and

g. means for rotating said inside rotary wheel independent of the rotation of said outside rotary wheel, including a second spur gear driver engaged with said spur gear teeth of said inside rotary wheel, providing accurate control of the rotation of said inside rotary wheel.

12. The rotary incubation station as defined in claim 11, wherein said means for positioning said inside rotary wheel comprises a plurality of horizontal bearings for positioning said inside rotary wheel inside said outside rotary wheel.

13. The rotary incubation station as defined in claim 12, wherein said means for positioning said inside rotary wheel further comprises at least one horizontal tensioner for locating said inside rotary wheel inside said outside rotary wheel.

14. The rotary incubation station as defined in claim 11, wherein said means for positioning said inside rotary wheel comprises a plurality of vertical pressure bearings for rotatably supporting said inside rotary wheel on said platform.

15. The rotary incubation station as defined in claim 11, wherein said means for rotating said outside rotary wheel comprises a first rotary actuator for driving said first spur gear driver.

16. The rotary incubation station as defined in claim 15, wherein said first rotary actuator is an electrical stepper motor.

17. The rotary incubation station as defined in claim 11, wherein said means for rotating said inside rotary wheel comprises a second rotary actuator for driving said second spur gear driver.

18. The rotary incubation station as defined in claim 17, wherein said second rotary actuator is an electrical stepper motor.

19. A rotary incubation station of an automated analyzer, comprising:

a. a generally circular-shaped platform;

b. a generally circular ring-shaped outside rotary wheel having a plurality of nesting locations for washing and reading vessels and a plurality of spur gear teeth on its inner periphery;

c. means for positioning said outside rotary wheel on said platform adjacent to its periphery, allowing said outside rotary wheel to rotate about a first axis;

d. a generally circular disc-shaped inside rotary wheel having a plurality of nesting locations for incubation and storage of vessels and a plurality of spur gear teeth on its outer periphery;

e. means for positioning said inside rotary wheel on said platform inside said outside rotary wheel, allowing said inside rotary wheel to rotate about a second axis;

f. means for rotating said outside rotary wheel, including a first spur gear driver engaged with said spur gear teeth of said outside rotary wheel and a first actuator for driving said first spur gear, providing accurate control of the rotation of said outside rotary wheel; and

g. means for rotating said inside rotary wheel independent of the rotation of said outside rotary wheel, including a second spur gear driver engaged with said spur gear teeth of said inside rotary wheel and a first actuator for driving said first spur gear, providing accurate control of the rotation of said inside rotary wheel.

20. The rotary incubation station as defined in claim 19, wherein said means for positioning said inside rotary wheel comprises a plurality of horizontal bearings for positioning said inside rotary wheel inside said outside rotary wheel.

21. The rotary incubation station as defined in claim 20, wherein said means for positioning said inside rotary wheel further comprises at least one horizontal tensioner for locating said inside rotary wheel inside said outside rotary wheel.

22. The rotary incubation station as defined in claim 19, wherein said means for positioning said inside rotary wheel comprises a plurality of vertical pressure bearings for rotatably supporting said inside rotary wheel on said platform.

23. The rotary incubation station as defined in claim 19, wherein said first rotary actuator is an electrical stepper motor.

24. The rotary incubation station as defined in claim 19, wherein said second rotary actuator is an electrical stepper motor.